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Information System Planning: Impacts On And Contributions From Organizational Learning And Decision Process

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Abstract

Information systems planning is a critical management challenge today. New concepts about decision making and organizational learning have been demanding a new vision about the information systems planning process. Both areas are making an effort in a equivalent to improve management behavior and the implementation of information systems planning. Therefore, this research analyses these impacts, heading towards a new model of IS strategic planing. This approach considers a new vision about decision making, in terms of logic incrementalism, and the organization learning techniques as a base in the implementation process plan in the technological area and the organizational transformation related to the use of new information technology. The method is qualitative research, mainly case study.

1. Introduction

The organizations have been facing an extremely competitive environment inserted in a society deeply affected by new paradigms introduced by the information society. The new reality provokes an intense reorganization in society, generating changes in organizations (Tapsccott, 1997). Information technology (IT) role becomes relevant and information systems management is simultaneously growing more challenging and more important (McNurlin and Sprague, 1998). In this context, information systems planning (ISP) is thus a very critical information systems management problem (Galliers *et al.*, 1994; Reponen, 1998).

Organizational learning theory can contribute to the amelioration of this problem. It represents an increasingly important area of research that examines how organizations learn and thus increase their competitiveness, innovativeness, and effectiveness (Ang *et al.*, 1997). In fact, the processes of decision making and planning have been viewed as learning processes themselves (De Geus, 1988), thus suggesting that all businesses learn all the time. Organizational learning is also important because it may provide the only sustainable competitive advantage that will enable businesses to compete in the long run (De Geus, 1988).

2. Literature Review

Organizational Learning

Organizational learning is the process by which the organization's knowledge and value base change, leading to improved problem-solving ability and capacity for action (Probst and Buchel, 1997). It has been identified as an important element in the resolution of problems in the organization, mainly those related to the strong competitive pressures of the market and to changes in technology. It emphasizes the collective learning generation of double loop feedback by the continuous questioning of presuppositions (Argyris, 1993). The organizational learning process is modeled as a continuous development, centered on five subjects: a personal mastery, mental models, shared vision, team learning, and systemic thinking (Senge, 1990). The use of creative techniques (Altier, 1999; Couger, 1995; Kao, 1997) and dynamic non-linear thinking (Baets, 1998) play an important role in creating a learning environment.

Decision Making

Decision process theory has evolved over time, passing from an idealized and restricted vision of rationality to an approach, with strong political and subjective components. The rationalist vision of the decision process is anchored in the seminal work of Von Newman (1947), with its systemic approach of optimization. March and Simon (1963) stated that the assumption of rational behavior demands simplified models that include only the main aspects of a problem. These simplifications are needed due to the cognitive limits of rationality on how the decision process requires the substitution of an optimal decision by a satisfactory one (Simon, 1947).

Cyert and March (1963) and Allison (1971) understand the decision making as a process of political negotiation, understanding the organization as a power collusion. Logical Incrementalism (Lindblom, 1959) analyze the decision process under a political perspective, viewing its limitations and fragmentation. It considers the rational models of decision analysis, of formal systems of

planning and political models. It reintroduces the manager as an integrator and administrator of the conflict between rational and political forces, recognizing his value.

Information Systems Planning

Information systems planning is the process of identifying a portfolio of computer-based applications to support an organization's business plan and to help it realize its business goals (Lederer and Sethi, 1988). Much research has focused on the improving the process. Studies have thus investigated the alignment of information systems strategy with business strategy (King, 1988); the identification of opportunities to gain competitive advantage using information technology (Porter and Millar, 1995); the analysis of internal processes and data dispersion through the organization (Brancheau and Watherbe, 1986; Goodhue *et al.*, 1992); the impact of the environment (Salmela and Lederer, 1996); plan implementation (Gottschalk, 1997; Lederer and Salmela, 1996; Reponen, 1998); and the role of organizational learning (Ang *et al.*, 1997; Baets, 1998; Reponen, 1998).

3. Objectives And Research Model

The objective of this research is to explore and illustrate the contributions from organizational learning theory and decision making theory in information system planning. By doing so, it seeks to confirm the relevance of organizational learning to such planning, and thus stimulate further research on the effectiveness of organizational learning techniques in the area.

The proposed challenge as a result of this research is in conceiving, developing and validating an IS strategic planning model in order to facilitate the decision process, incorporating organizational learning aspects, as a way to develop the implementability of the generated plan.

Figure 1 show the research model for the current study. This model defines the relations among the components of IS strategic planning, organizational learning and decision process.

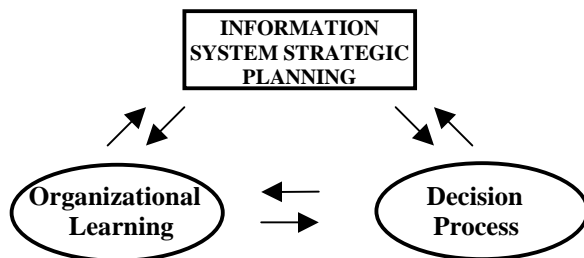


Figure 1 – Research model

4. Methodology

This research is characterized as a predominantly exploratory study, since the problem presented here has not, to our knowledge, been approached under the same perspective. Case study is the main research method. It was chosen because it allows the in-depth analysis of an organization. It also permits in-depth analysis of different internal areas and activities associated with a particular process. This facilitates the creation of in-depth knowledge of the impacts and consequences of the process (Babbie, 1989).

Case study is becoming a widely used method of investigation in the social sciences. It is considered a scientific method when it is articulated under a broader research perspective, based on a solid theoretical foundation (Lee *et al.*, 1997). Multiple sources are planned as a way to improve the reliability of the data. These sources include interviews with technical people and managers, internal (structured interviews, email surveys and reports) and external (web sites, press articles and consultant organizations) documents. Interviews will be tape recorded for further analysis. Documents reviews will be used as a method of triangulation and data analysis is planned to follow theory development procedures prescribed by Eisenhardt (1989). A large university-affiliated medical center provided the basis for the main case study in this research.

5. Expected Contributions

Research in this field is important to IS planners and to researchers. To IS planners and managers because they can use the decision process approaches and organizational learning techniques to improve the effectiveness of their plans. For the other side, studies in this area are important to researchers because they provide new insights about the impact and contribution from decision process and organizational learning theory to IS plan, and this may provide a foundation for revising current ISP frameworks and methodologies. This kind of research, in a broader sense, can provide more groundwork for research dealing with information system planning and organizational learning.

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